



HAMP gene

hepcidin antimicrobial peptide

Normal Function

The *HAMP* gene provides instructions for the production of a protein called hepcidin. Hepcidin was originally identified as having antimicrobial properties, which refers to the ability of this protein to fight bacterial infections. Researchers have discovered that hepcidin plays a major role in maintaining iron balance in the body. They believe that hepcidin circulates in the blood and inhibits iron absorption by the small intestine when the body's supply of iron is too high. Researchers have proposed that hepcidin production in the liver increases when iron enters liver cells from the blood. Hepcidin is then released into the bloodstream and travels throughout the body. This protein interacts primarily with other proteins in the intestines, liver, and certain white blood cells to adjust iron absorption and storage. In this way, iron supplies are monitored and iron absorption is adjusted to reflect the needs of an individual's body.

Health Conditions Related to Genetic Changes

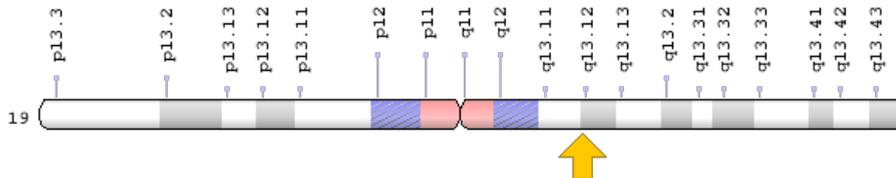
hereditary hemochromatosis

At least eight mutations in the *HAMP* gene can cause hereditary hemochromatosis. People who have mutations in the *HAMP* gene are affected by a severe type of juvenile hemochromatosis, sometimes called type 2 hemochromatosis, that begins between the ages of 10 years and 30 years. People with mutations in the *HAMP* gene are unable to make normal hepcidin and cannot inhibit iron absorption, even when the body has sufficient supplies of iron. The organs of affected people become overloaded with iron, especially the liver and the heart, leading to the organ damage characteristic of this disorder.

Chromosomal Location

Cytogenetic Location: 19q13.12, which is the long (q) arm of chromosome 19 at position 13.12

Molecular Location: base pairs 35,282,346 to 35,285,143 on chromosome 19 (Homo sapiens Annotation Release 108, GRCh38.p7) (NCBI)



Credit: Genome Decoration Page/NCBI

Other Names for This Gene

- HEPC
- HEPC_HUMAN
- Hecpcidin
- HFE2B
- LEAP-1
- LEAP1
- Liver-expressed antimicrobial peptide
- PLTR
- Putative liver tumor regressor

Additional Information & Resources

GeneReviews

- Juvenile Hereditary Hemochromatosis
<https://www.ncbi.nlm.nih.gov/books/NBK1170>

Genetic Testing Registry

- GTR: Genetic tests for HAMP
<https://www.ncbi.nlm.nih.gov/gtr/all/tests/?term=57817%5Bgeneid%5D>

Scientific articles on PubMed

- PubMed
<https://www.ncbi.nlm.nih.gov/pubmed?term=%28%28HAMP%5BTIAB%5D%29+OR+%28hepcidin+antimicrobial+peptide%5BTIAB%5D%29+OR+%28hepcidin%5BTIAB%5D%29%29+OR+%28%28LEAP-1%5BTIAB%5D%29+OR+%28Liver-expressed+antimicrobial+peptide%5BTIAB%5D%29%29+AND+english%5Bla%5D+AND+human%5Bmh%5D+AND+%22last+1800+days%22%5Bdp%5D>

OMIM

- HEPCIDIN ANTIMICROBIAL PEPTIDE
<http://omim.org/entry/606464>

Research Resources

- Atlas of Genetics and Cytogenetics in Oncology and Haematology
http://atlasgeneticsoncology.org/Genes/GC_HAMP.html
- ClinVar
<https://www.ncbi.nlm.nih.gov/clinvar?term=HAMP%5Bgene%5D>
- HGNC Gene Symbol Report
http://www.genenames.org/cgi-bin/gene_symbol_report?q=data/hgnc_data.php&hgnc_id=15598
- NCBI Gene
<https://www.ncbi.nlm.nih.gov/gene/57817>
- UniProt
<http://www.uniprot.org/uniprot/P81172>

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